

#f



SEQUENCE LISTING

<110> Gordon-Kamm, William
Lowe, Keith
Sun, Yuejin
Dilkes, Brian
Larkins, Brian

<120> Cell Cycle Nucleic Acids, Polypeptides,
and Uses Thereof

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<212> DNA

<213> zea mays

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Met Gly Lys Tyr Met Arg Lys Cys Arg Gly Ala Ala	
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ggc gcg gag gtc gcc gcc gtc gag gtt acg cag gtc gtc ggc gtc cgg	217
Gly Ala Glu Val Ala Ala Val Glu Val Thr Gln Val Val Gly Val Arg	
15 20 25	
acg agg tcc agg tcc gcg gcg gcg acc ggc ggt gtc gcg aag gtc gcc	265
Thr Arg Ser Arg Ser Ala Ala Ala Thr Gly Gly Val Ala Lys Val Ala	
30 35 40	
ccg agg agg aag agg gcg ccg gcg ggg gag cct gct gcc gcc gtg agc	313
Pro Arg Arg Lys Arg Ala Pro Ala Gly Glu Pro Ala Ala Ala Val Ser	
45 50 55 60	
gct ggt ggg gac ggc gga agc tgc tac atc cac ctg cgt agc cgc atg	361
Ala Gly Gly Asp Gly Gly Ser Cys Tyr Ile His Leu Arg Ser Arg Met	
65 70 75	
ctg ttc atg gca ccg cct cag ccg cag ccg tcg gtt gac tcg gtt ccg	409
Leu Phe Met Ala Pro Pro Gln Pro Gln Pro Ser Val Asp Ser Val Pro	
80 85 90	
acc ccg gtg gag gct gct gat ggc gct gca gga cag cag ggc gcg gcg	457

Thr	Pro	Val	Glu	Ala	Ala	Asp	Gly	Ala	Ala	Gly	Gln	Gln	Gly	Ala	Ala		
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ctc	gcg	gcc	ggg	ctc	tcg	cgt	tgc	tcc	agc	acg	gcg	tcg	tcg	gtg	aac		505
Leu	Ala	Ala	Gly	Leu	Ser	Arg	Cys	Ser	Ser	Thr	Ala	Ser	Ser	Val	Asn		
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ttg	ggc	ttg	ggg	ggt	cag	cgc	ggg	agc	cac	acc	tgc	cgc	tcc	tac	gac		553
Leu	Gly	Leu	Gly	Gly	Gln	Arg	Gly	Ser	His	Thr	Cys	Arg	Ser	Tyr	Asp		
125					130					135					140		
gct	gca	gag	gct	ggc	ggg	gat	cac	gtc	ctg	gtg	gat	gtc	tcg	gcg	gcg		601
Ala	Ala	Glu	Ala	Gly	Gly	Asp	His	Val	Leu	Val	Asp	Val	Ser	Ala	Ala		
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agc	aac	tcc	ggg	agc	ggc	cca	gac	cgc	gag	agg	cga	gag	acg	acg	cca		649
Ser	Asn	Ser	Gly	Ser	Gly	Pro	Asp	Arg	Glu	Arg	Arg	Glu	Thr	Thr	Pro		
		160						165					170				
tcg	agc	cgg	gcg	cac	ggc	gag	ctc	agc	gat	ctg	gag	tcg	gat	ctg	gcg		697
Ser	Ser	Arg	Ala	His	Gly	Glu	Leu	Ser	Asp	Leu	Glu	Ser	Asp	Leu	Ala		
		175					180					185					
ggg	cac	aag	act	ggc	ccg	tcg	cta	ccg	gcg	gca	acg	ccg	gct	gcg	gag		745
Gly	His	Lys	Thr	Gly	Pro	Ser	Leu	Pro	Ala	Ala	Thr	Pro	Ala	Ala	Glu		
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ctg	atc	gtg	ccg	cca	gca	cac	gag	atc	cag	gag	ttc	ttc	gcc	gcc	gcc		793
Leu	Ile	Val	Pro	Pro	Ala	His	Glu	Ile	Gln	Glu	Phe	Phe	Ala	Ala	Ala		
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Glu	Ala	Ala	Gln	Ala	Lys	Arg	Phe	Ala	Ser	Lys	Tyr	Asn	Phe	Asp	Phe		
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gtc	cgc	ggc	gtg	ccc	ctc	gac	gcc	ggc	ggc	cgg	ttc	gag	tgg	gcg	ccg		889
Val	Arg	Gly	Val	Pro	Leu	Asp	Ala	Gly	Gly	Arg	Phe	Glu	Trp	Ala	Pro		
			240					245					250				
gtg	gtc	agc	atc	t	gaagc	gagcg	tgcgt	ccggt	gcaagg	tgaa	gctag	aaaga					942
Val	Val	Ser	Ile														
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attaagcagc	tttatatagc	ctaagctaac	caccaccatt	catctcgtcc	aaatgcatgc												1062
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gaaagatctg	gtttgtctca	aaaaaaaaaa	aaaaaaaaaa	aaaaaaagg	cggccgctct												1302
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Gly	Gly	Ser	Cys	Tyr	Ile	His	Leu	Arg	Ser	Arg	Met	Leu	Phe	Met	Ala	
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Pro	Pro	Gln	Pro	Gln	Pro	Ser	Val	Asp	Ser	Val	Pro	Thr	Pro	Val	Glu	
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Ala	Ala	Asp	Gly	Ala	Ala	Gly	Gln	Gln	Gly	Ala	Ala	Leu	Ala	Ala	Gly	
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Leu	Ser	Arg	Cys	Ser	Ser	Thr	Ala	Ser	Ser	Val	Asn	Leu	Gly	Leu	Gly	
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Gly	Gln	Arg	Gly	Ser	His	Thr	Cys	Arg	Ser	Tyr	Asp	Ala	Ala	Glu	Ala	
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Ser	Gly	Pro	Asp	Arg	Glu	Arg	Arg	Glu	Thr	Thr	Pro	Ser	Ser	Arg	Ala	
			165					170						175		
His	Gly	Glu	Leu	Ser	Asp	Leu	Glu	Ser	Asp	Leu	Ala	Gly	His	Lys	Thr	
		180				185						190				
Gly	Pro	Ser	Leu	Pro	Ala	Ala	Thr	Pro	Ala	Ala	Glu	Leu	Ile	Val	Pro	
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Pro	Ala	His	Glu	Ile	Gln	Glu	Phe	Phe	Ala	Ala	Ala	Glu	Ala	Ala	Gln	
	210				215						220					
Ala	Lys	Arg	Phe	Ala	Ser	Lys	Tyr	Asn	Phe	Asp	Phe	Val	Arg	Gly	Val	
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Met Gly Lys Tyr Met Arg Lys
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ctc gga gtc cgc acc cga gcg cgc gcc ctc gcg ctg cag cgt ctg cag Leu Gly Val Arg Thr Arg Ala Arg Ala Leu Ala Leu Gln Arg Leu Gln 25 30 35	270
gag cag cag acg cag tgg gag gaa ggt gct ggc gcc gag tac ctg gag Glu Gln Gln Thr Gln Trp Glu Glu Gly Ala Gly Gly Glu Tyr Leu Glu 40 45 50 55	318
cta agg aac cgg agg ctc gag aag ctg ccg ccg ccg ccg gcg acc acg Leu Arg Asn Arg Arg Leu Glu Lys Leu Pro Pro Pro Pro Ala Thr Thr 60 65 70	366
agg agg tcg ggc ggg agg aaa gcg gca gcc gag gcc gcc gca act aag Arg Arg Ser Gly Gly Arg Lys Ala Ala Ala Glu Ala Ala Ala Thr Lys 75 80 85	414
gag gct gag gcg tcg tac ggg gag aac atg ctc gag ttg gag gcc atg Glu Ala Glu Ala Ser Tyr Gly Glu Asn Met Leu Glu Leu Glu Ala Met 90 95 100	462
gag agg att acc agg gag acg acg cct tgc agc ttg att aac acc cag Glu Arg Ile Thr Arg Glu Thr Thr Pro Cys Ser Leu Ile Asn Thr Gln 105 110 115	510
atg act agc act cct ggg tcc acg aqa tcc agc cac tct tgc cac cgc Met Thr Ser Thr Pro Gly Ser Thr Arg Ser Ser His Ser Cys His Arg 120 125 130 135	558
agg gtg aac gct cct ccg gtg cac gcc gtc cca agt tcg agg gag atg Arg Val Asn Ala Pro Pro Val His Ala Val Pro Ser Ser Arg Glu Met 140 145 150	606
aat gag tac ttc gct gcc gaa cag cga cgc caa caa cag gat ttc att Asn Glu Tyr Phe Ala Ala Glu Gln Arg Arg Gln Gln Gln Asp Phe Ile 155 160 165	654
gac aag tac aac ttc gat cct gca aac gac tgc cct ctc cca gcc agg Asp Lys Tyr Asn Phe Asp Pro Ala Asn Asp Cys Pro Leu Pro Gly Arg 170 175 180	702
ttt gag tgg gtg aag cta gac t gatggattca gagggacgag agagcagcag Phe Glu Trp Val Lys Leu Asp 185 190	754
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 35 40 45
 Ala Gly Gly Glu Tyr Leu Glu Leu Arg Asn Arg Arg Leu Glu Lys Leu
 50 55 60
 Pro Pro Pro Pro Ala Thr Thr Arg Arg Ser Gly Gly Arg Lys Ala Ala
 65 70 75 80
 Ala Glu Ala Ala Ala Thr Lys Glu Ala Glu Ala Ser Tyr Gly Glu Asn
 85 90 95
 Met Leu Glu Leu Glu Ala Met Glu Arg Ile Thr Arg Glu Thr Thr Pro
 100 105 110
 Cys Ser Leu Ile Asn Thr Gln Met Thr Ser Thr Pro Gly Ser Thr Arg
 115 120 125
 Ser Ser His Ser Cys His Arg Arg Val Asn Ala Pro Pro Val His Ala
 130 135 140
 Val Pro Ser Ser Arg Glu Met Asn Glu Tyr Phe Ala Ala Glu Gln Arg
 145 150 155 160
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 Asp Cys Pro Leu Pro Gly Arg Phe Glu Trp Val Lys Leu Asp
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 agcgagaaga aggcagtgtc gcggcggcgt tccgtaag atg ggg aag tac atg cgc 176
 Met Gly Lys Tyr Met Arg
 1 5
 aag cgc agg ggg gcc gcg ggc gag ggg gtg gcc gca gtc gag gtc tcg 224
 Lys Arg Arg Gly Ala Ala Gly Glu Gly Val Ala Ala Val Glu Val Ser
 10 15 20
 cag gtc gtc ggc gtc cgg acg agg tcc agg tcc gcg gcg gcg acc ggc 272
 Gln Val Val Gly Val Arg Thr Arg Ser Arg Ser Ala Ala Ala Thr Gly
 25 30 35

ggc ggt gtc gcg aag gtc gct ccg ccg agg agg aag aag gcg ctg ctg Gly Gly Val Ala Lys Val Ala Pro Pro Arg Arg Lys Lys Ala Leu Leu 40 45 50	320
ccc gcc gcg aac gtg acg acg tcg ggg gag cct ggt gcc gtg ggc gct Pro Ala Ala Asn Val Thr Thr Ser Gly Glu Pro Gly Ala Val Gly Ala 55 60 65 70	368
ggt ggt ggg gac ggc gga agc tgc tgc tac atc cac ctg cgg agc cgc Gly Gly Gly Asp Gly Gly Ser Cys Cys Tyr Ile His Leu Arg Ser Arg 75 80 85	416
atg ctg ttc atg gca gca cct cag cag caa ccg tcg gcg gct ctg acg Met Leu Phe Met Ala Ala Pro Gln Gln Gln Pro Ser Ala Ala Leu Thr 90 95 100	464
ccg gtg gag gct gct ggt gcg gca car caa ggc ggg gtg gtg gcg ctc Pro Val Glu Ala Ala Gly Ala Ala Xaa Gln Gly Gly Val Val Ala Leu 105 110 115	512
gcg gct ggc ctc tcg cgt tgc tcc agc acg gcg tcg tcg gtg gac gtc Ala Ala Gly Leu Ser Arg Cys Ser Ser Thr Ala Ser Ser Val Asp Val 120 125 130	560
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gat cac gtc ccg gat gtc gtc acc gcg agc aac tcg ggg agc gtc ccg Asp His Val Pro Asp Val Val Thr Ala Ser Asn Ser Gly Ser Val Pro 155 160 165	656
gac cgc gag agg aga gag acg acg cca tcg tcg agc cgg gcg cac ggc Asp Arg Glu Arg Arg Glu Thr Thr Pro Ser Ser Ser Arg Ala His Gly 170 175 180	704
ggc gag ctc agc gat ctg gag tcg gat ctg gtg ggg cgg cag aag act Gly Glu Leu Ser Asp Leu Glu Ser Asp Leu Val Gly Arg Gln Lys Thr 185 190 195	752
ggc tgc tcg tcg tcg ccg gcg aca aca aca tcg gct gcg gag ctg atc Gly Cys Ser Ser Ser Pro Ala Thr Thr Thr Ser Ala Ala Glu Leu Ile 200 205 210	800
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 35 40 45
 Arg Lys Lys Ala Leu Leu Pro Ala Ala Asn Val Thr Thr Ser Gly Glu
 50 55 60
 Pro Gly Ala Val Gly Ala Gly Gly Gly Asp Gly Gly Ser Cys Cys Tyr
 65 70 75 80
 Ile His Leu Arg Ser Arg Met Leu Phe Met Ala Ala Pro Gln Gln Gln
 85 90 95
 Pro Ser Ala Ala Leu Thr Pro Val Glu Ala Ala Gly Ala Ala Xaa Gln
 100 105 110
 Gly Gly Val Val Ala Leu Ala Ala Gly Leu Ser Arg Cys Ser Ser Thr
 115 120 125
 Ala Ser Ser Val Asp Val Gly Gly His Ala Cys Arg Ser Asp Ala Ala
 130 135 140
 Pro Ala Glu Val Asp Gly Asp His Val Pro Asp Val Val Thr Ala Ser
 145 150 155 160
 Asn Ser Gly Ser Val Pro Asp Arg Glu Arg Arg Glu Thr Thr Pro Ser
 165 170 175
 Ser Ser Arg Ala His Gly Gly Glu Leu Ser Asp Leu Glu Ser Asp Leu
 180 185 190
 Val Gly Arg Gln Lys Thr Gly Cys Ser Ser Ser Pro Ala Thr Thr Thr
 195 200 205
 Ser Ala Ala Glu Leu Ile Val Pro Pro Ala Gln Glu Ile Gln Glu Phe
 210 215 220
 Phe Ala Ala
 225